SMART START

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NEWSLETTER

Issue 2 • April – June 2026 • Erasmus+ KA220-HED-000354533

Innovative Approaches with Machine Learning in Early Childhood Education

Understanding Machine Learning: From Data to Teacher Judgment

A teacher doesn't need any coding, AI, or IT skills to teach machine learning in early childhood education. It's simple: as a child learns by trying what they see, a computer improves at a task by finding patterns in data.

Machine learning may sound technical, but the basic idea is simple: computers learn from examples. Just as a child learns to recognize dinosaur toys by seeing many examples, a machine learning model learns patterns from data and uses those patterns to make predictions.

Module review with future educators

Machine learning needs teacher mediation

Teachers understand that children and machines do not learn in the same way. A child may understand something from one meaningful example, while a machine usually needs many examples before it can make a useful guess. This difference is important for educators because AI systems can support learning, but they do not understand children as teachers do.

"The use of AI in education is raising fundamental questions about teacher agency and their capacity to determine how and when to make judicious use of this technology". — UNESCO 2024

… a throwback to May 2026's meeting

Tips for Getting Started

- Understand that AI does not take replace the teacher.
- Teachers should always critique AI outputs.
- Provide multiple examples for the model to learn from.
- Let children understand that the model can make mistakes.
- Prioritize children's data privacy.

Machine Learning is Human-Centered

ML can support early childhood education, but it must remain human-centered. Teachers are not to be replaced by AI; they should remain responsible for pedagogical decisions, question AI tools critically, watch out for bias, protect learners' rights, and receive institutional support to use AI ethically and effectively.

> “AI models in use should be explainable, safe and do no harm; and finally, the selection, use and monitoring of the impact of AI should be human controlled and human accountable.
>
> — UNESCO 2024

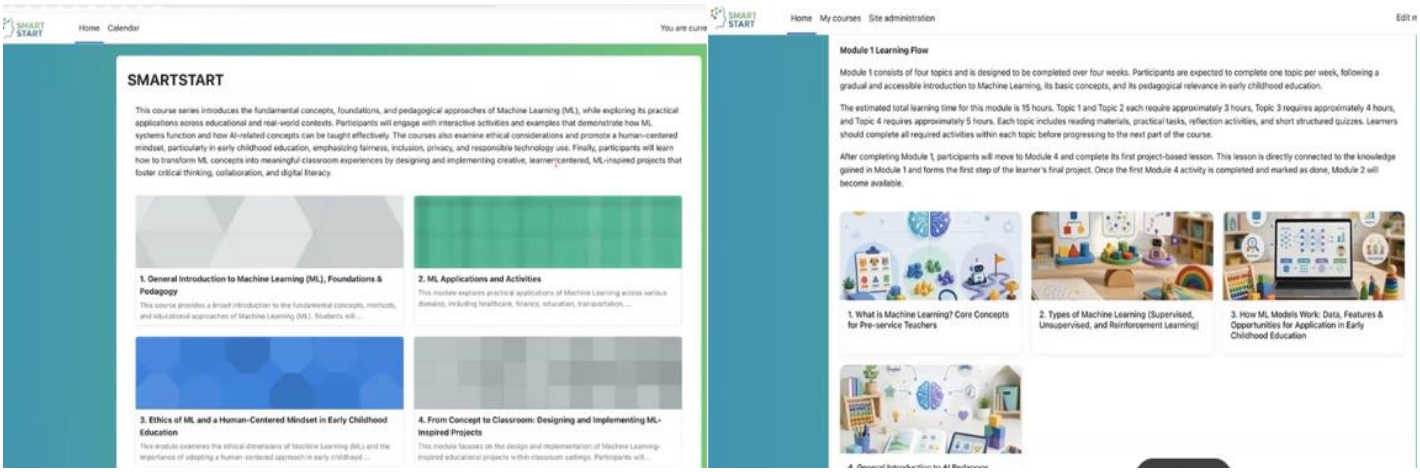
★ PROJECT CORNER ★

■ Ten Months In: A Progress Review

As SMARTSTART almost reaches the half mark of its 24-month timeline, significant progress has been achieved across all active work packages.

- The WP2 curriculum development phase is nearing completion,
- Pilot implementations are generating valuable feedback.
- Educator training workshops are under way, and the digital platform is taking shape.

Ongoing module digitalization



1	4	50+	85%
TPM Completed	Modules Developed	Candidates Trained	WP2 Progress

Looking Ahead: May – August 2026

- June 2026: WP3 — Development of Pedagogical Examples begins under KUW leadership
- August 2026: TPM2 — Second Transnational Meeting in Vaasa, Finland
- Ongoing: Digital platform development, content integration, and stakeholder engagement
- Ongoing: Dissemination activities, conference presentations, and social media outreach

COMING UP IN OUR NEXT ISSUE

Our summer issue will explore how different European countries approach digital competence in early childhood education, and we will report live from TPM2 in Finland.

Co-funded by the European Union. Views and opinions expressed are those of the authors only.